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**Notice of Allowability**

Application No.

10/059,183

Applicant(s)

KIKKAWA ET AL.

Examiner

Timothy L. Rude

Art Unit

2883

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 19 January 2004.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 31 January 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

tlr

## DETAILED ACTION

### *Claims*

Claim 1 is amended.

### *Allowable Subject Matter*

Claims 1-8 are allowed.

The following is an examiner's statement of reasons for allowance: /

As to claim 1, relevant prior art of record did not disclose, alone or in combination, the liquid crystal display device as claimed comprising: *a first electrically insulating film randomly patterned on said first substrate;*  
*a second electrically insulating film covering said first electrically insulating film therewith, and having a wavy surface; and*  
*a reflection electrode formed on said second electrically insulating film, and electrically connected to an electrode of said switching device,*  
*wherein a light passing through said second substrate and said liquid crystal layer is reflected at said reflection electrode,*

wherein said second electrically insulating film extends outwardly from said first electrically insulating film by a certain length at an end of a display region in which images are to be displayed, such that a step formed by said first and second electrically insulating films in the vicinity of said end of said display region is smoothed, and wherein no residual portion of said reflection electrode remains on said second electrically insulating film in the region outward of the display region that is smoothed.

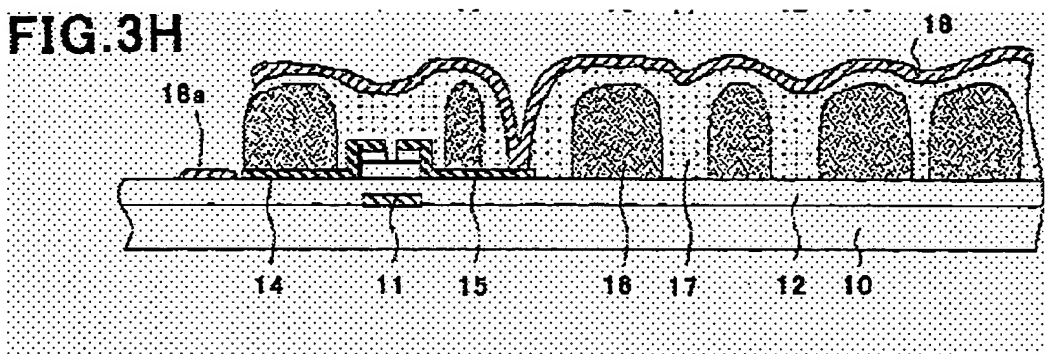
The above claimed structure allows clean removal of unwanted portions of the reflection electrode in the region outward of the display region.

The closest combination is Applicant's admitted prior (APA) art in view of Kanou et al (Kanou) USPAT 6,747,718 B2 (commonly owned by Applicant). APA discloses much of the basic structure and Kanou teaches smoothing, but not for the claimed region which allows for clean removal of the reflective layer in the peripheral area outside the viewing area of the display. Please note that the left portion of Figure 6 of Kanou is not taught as being outside the display region; rather, it is considered merely the region between pixels.

Prior art cited but not applied are considered relevant to the instant Application, but they also lack motivation to combine for purposes of allowing clean removal of unwanted portions of the reflection electrode in the region outward of the display region.

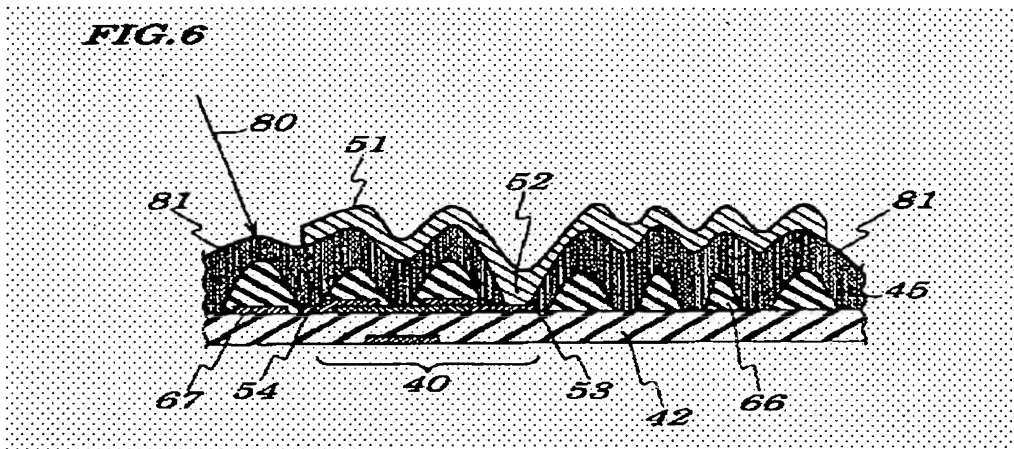
APA :

FIG. 3H



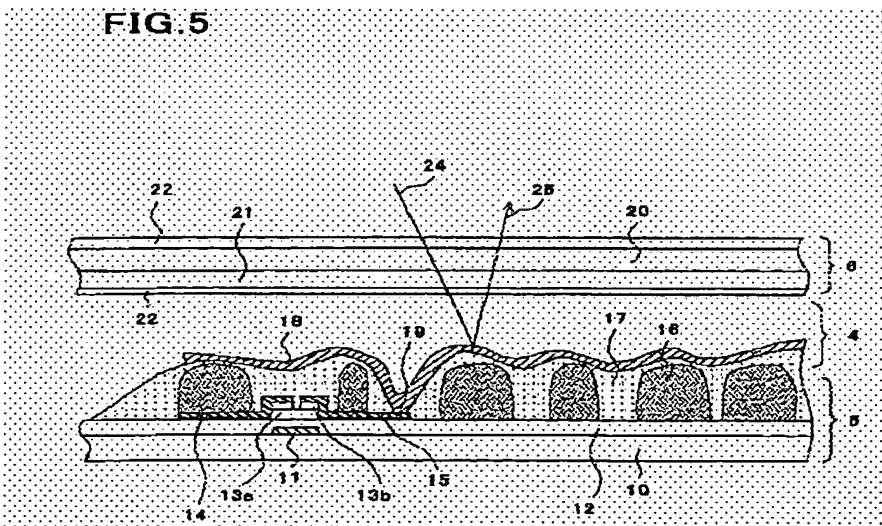
Kanou :

**FIG. 6**



### Invention of the Instant Application :

**FIG. 5**



As to claims 2-8, they are directly dependent upon claim 1 with allowable subject matter above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L. Rude whose telephone number is (571) 272-2301. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



tlr

Timothy L Rude  
Examiner  
Art Unit 2883



Frank G. Font  
Supervisory Patent Examiner  
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